

CITY OF EVERETT
2001 DROUGHT RESPONSE PLAN
(5-17-01)
(Updated 3-14-05)

OBJECTIVE

The Drought Response Plan (DRP) establishes procedures for managing water supply and demand during periods of weather-related shortages. This will help maintain essential public health and safety services, and minimize adverse impacts on the local economy, the environment, and the lifestyle of our residents.

OVERVIEW

Droughts are natural occurring but unpredictable weather events of varying frequency, duration and severity. In the Everett Water Service Area (EWSA), there is a low probability of a multi-year drought, but unusual weather events can cause short-term shortages by affecting the annual refill and draw-down of the Spada Reservoir. This can occur in one or more of the following ways:

- A dry fall and/or winter can disrupt the refill cycle which normally replenishes the Spada Reservoir.
- A less than normal winter snowpack can limit the volume of flows from snowmelt in the spring to refill Spada Reservoir.
- Unusually warm and dry spring weather can cause an early melting of the snowpack and an early filling and draw-down of Spada Reservoir.
- Unusually warm and dry summer weather can significantly increase peak summer season demands and the draw-down of Spada Reservoir.

The DRP identifies the range of demand reduction actions that are available and defines the mechanism(s) by which decisions will be made during a drought event. Since each drought situation has unique characteristics, the DRP cannot address all scenarios, or all of the supply and demand management actions that might be appropriate to a given situation. As a result, the DRP is a general framework of actions that will be tailored to meet the specific needs of drought-related supply situation.

In addition to meeting the needs of the City and its wholesale water customers, the DRP is designed to achieve three goals. First, the DRP ensures that an adequate quantity of high quality water is maintained throughout a drought event. Second, the DRP ensures that adequate instream flows are maintained in the Sultan River for fish

and wildlife habitat. Third, where feasible, the DRP maintains adequate storage for the generation of hydroelectric power. While there is little latitude with the first two goals, the third may be suspended depending on the severity of a drought event.

DATA NEEDS

The DRP provides a blueprint for managing a drought situation to forestall a worsening drought-related supply condition. For the DRP to be effective, it is critical to establish a channel of clear, timely, and specific information on the supply conditions early in the process. At a minimum, this information should include:

- Regular updates on the level of Spada Reservoir
- Weather and precipitation forecasts from the Climate Prediction Center and Northwest River Forecast Center.
- Water demand forecasts identifying normal consumption levels and projected consumption patterns based on historical data for previous drought conditions.

COORDINATION

The City of Everett water supply system provides water to the majority of Snohomish County through contracts with wholesale water customers, or purveyors. Given this relationship, drought management actions must be implemented throughout the EWSA to be effective. Regionally consistent actions are important for a number of reasons:

- A unified message and approach is easier to communicate to the public and easier for the public to understand.
- Public support and cooperation is likely to be higher if drought management actions are equitable throughout the EWS.
- It is easier to forecast and manage demand if drought management actions are consistent throughout the EWSA.

DRP STAGES

Data from other water utilities that have faced drought situations indicates that customers prefer the opportunity to meet targeted demand reductions through voluntary actions before mandatory restrictions are put in place. As a result, the DRP provides a four-stage approach to dealing with a drought event. Each stage provides an increasingly aggressive set of actions that will be implemented as drought conditions become more severe.

The four stages of the DRP include a variety of communications, internal operating adjustments, and supply and demand management strategies. These stages are characterized as follows:

- Advisory Stage – The public is informed that a water shortage may occur and is encouraged to use water wisely.
- Voluntary Stage – This stage relies on voluntary cooperation to meet demand-reduction goals. During this stage, the City and its purveyors will implement supply-side actions and recommend voluntary actions for their retail customers.
- Mandatory Stage – During this stage, the City and its purveyors will implement more aggressive supply-side actions and will limit or prohibit certain retail water use activities.
- Emergency Stage – If supply conditions worsen and the mandatory stage does not meet the required demand reduction, this stage will establish emergency restrictions, which may include rate surcharges.

Recommendations for implementing the last three stages of the DRP will be made to the City's Public Works Director by a Drought Advisory Committee which will be formed at the direction of the Public Works Director. The Drought Advisory Committee will be composed of:

- Two (2) representatives from the City's Public Works Department,
- One (1) representative from the City's Parks Department,
- One (1) representative from the City's Facilities Department,
- One (1) representative from the City's Administration Group,
- One (1) representative from the Snohomish County PUD and,
- Two (2) representatives from the Everett Water Utilities Committee (EWUC).

STAGE 1 – ADVISORY

The Advisory Stage will be triggered by two primary conditions:

- Spada Reservoir storage is less than 80 percent of normal operating capacity as of April 1, due to exceptionally low precipitation, and/or carryover storage from the previous year.
- The snowpack and inflows that feed Spada Reservoir are less than 80 percent of normal levels as of April 1.

The Advisory Stage will focus on external communications. The City will inform wholesale and retail customers that the potential exists for a future water shortage. This message will include the following basic elements:

- There is a lower than normal supply of water in the Spada reservoir.
- The conditions may return to normal, but it is too early to tell.
- If the conditions don't improve, additional steps may have to be taken to reduce water consumption.
- Customers are encouraged to use water wisely to avoid the possibility of more stringent actions.

In addition to advising customers about the potential of water shortage, the Advisory Stage will prompt a number of actions:

- The Drought Advisory Committee will be assembled to monitor the situation and assign responsibilities.
- Data collection (e.g., stream flows, snowpack conditions, weather forecasts, reservoir levels) and computer modeling of projected supply, demand storage will be intensified.
- The City will develop a fact sheet that outlines the water situation for water system customer service staff throughout the EWSA.
- Planning and preparation for the Voluntary Stage will be initiated including an assessment of staffing impacts, training needs, and communication strategies.
- The City and/or its purveyors may consider the need for a rate surcharge to promote water conservation.

STAGE 2 – VOLUNTARY

The Voluntary Stage will be triggered by two primary conditions:

- Spada Reservoir storage is not projected to be at standard operating capacity as of June 1, due to an exceptionally low snowpack, precipitation, and/or carryover storage from the previous year.
- Spada Reservoir storage and predicted inflows are at, or below, 75 percent of normal levels and indicate the need for a more systematic response to the water supply situation.

The Voluntary Stage will be a call to action. The City will inform wholesale and retail customers that water supply conditions have not improved and that their help is needed to reduce water consumption. This message will include the following elements:

- The water supply in Spada reservoir continues to be lower than normal.
- There is a reasonable probability that the conditions will not return to normal.
- Water purveyors in the EWSA are taking steps to limit water use.
- Customers are encouraged to voluntarily reduce demand to avoid the need for more stringent actions in the future.

In the Voluntary Stage, the City and its purveyors will implement a number of water-saving steps and will ask retail customers to limit certain specific water-related activities. These actions are shown in Figure 1:

FIGURE 1: Stage 2 Voluntary Actions

City/Purveyor Actions	Retail Customer Actions
<ul style="list-style-type: none"> • Limit all non-essential domestic uses of water 	<ul style="list-style-type: none"> • Limit all non-essential domestic uses of water
<ul style="list-style-type: none"> • Limit landscape irrigation around public facilities 	<ul style="list-style-type: none"> • Limit car washing, driveway cleaning, and pressure washing
<ul style="list-style-type: none"> • Limit irrigation of parks and median/gateway areas 	<ul style="list-style-type: none"> • Limit irrigation of golf fairways and cemeteries
<ul style="list-style-type: none"> • Limit street washing and other non-essential services 	<ul style="list-style-type: none"> • Limit irrigation of golf fairways and cemeteries
<ul style="list-style-type: none"> • Limit the frequency of water system flushing activities 	<ul style="list-style-type: none"> • Limit recreational uses of water

In addition to promoting voluntary water consumption, the Voluntary Stage will prompt a number of other actions:

- The Drought Advisory Committee will begin meeting on a regular basis to coordinate internal and external actions.
- Systematic communications will be established with elected officials throughout the EWSA.
- A communications plan will be developed and implemented to keep customers informed about the water situation, promote conservation strategies, and encourage behavioral changes.
- Watering (irrigation) guidelines will be established and communicated to the City's wholesale and retail customers.
- Planning and preparation for the Mandatory Stage will be initiated including an assessment of staffing impacts, training needs, and communication strategies.

- The City and/or its purveyors may implement a rate surcharge to promote water conservation.

STAGE 3 – MANDATORY

The Public Works Director will authorize progressing to Mandatory Stage based on the recommendations of the Drought Advisory Committee. This will be triggered by two primary conditions:

- Supply conditions have become progressively more serious, this trend is expected to continue or worsen, and the goals established in the Voluntary Stage have not been achieved.
- Supply modeling indicates that demand levels must be reduced by specific, quantifiable levels to avoid serious impacts on the ability to meet essential water needs in the future. Supply modeling indicates that expected demands may not be met if this trend continues.

The Mandatory Stage will identify specific water conservations actions customers are required to take. The City will inform its wholesale and retail customers that voluntary actions have not been successful and that restrictions must be imposed to address the water shortage situation. This message will include the following elements:

- The water supply in Spada reservoir is lower than normal and is unlikely to return to normal conditions.
- The voluntary approach has not resulted in the necessary savings.
- Water purveyors in the EWSA are instituting water restrictions to ensure that there is an adequate supply throughout the duration of the shortage period.
- Customers are instructed to eliminate certain water-use activities to avoid more stringent measures in the future.
- Water purveyors will be implementing an enforcement plan to monitor water use and address violations.

In the Mandatory Stage, the City and its purveyors will eliminate all non-essential uses of water and will ask retail customers to eliminate a variety of water-related activities. These actions are shown in Figure 2:

FIGURE 2: Stage 3 Mandatory Actions

City/Purveyor Actions	Retail Customer Actions
<ul style="list-style-type: none"> • Eliminate all non-essential services and uses of water 	<ul style="list-style-type: none"> • Eliminate all non-essential domestic uses of water
<ul style="list-style-type: none"> • Eliminate landscape irrigation around public facilities 	<ul style="list-style-type: none"> • Eliminate washing cars, spray cleaning, and pressure washing
<ul style="list-style-type: none"> • Eliminate irrigation of parks and median/gateway areas 	<ul style="list-style-type: none"> • Eliminate irrigation of residential gardens and lawns
<ul style="list-style-type: none"> • Eliminate non-essential system flushing activities 	<ul style="list-style-type: none"> • Eliminate irrigation of golf fairways and cemeteries
<ul style="list-style-type: none"> • Eliminate non-essential sewer flushing activities 	<ul style="list-style-type: none"> • Eliminate all recreational uses of water
<ul style="list-style-type: none"> • Restrict Fire Department training activities 	<ul style="list-style-type: none"> • Reduce commercial uses of water to prescribed levels
<ul style="list-style-type: none"> • Limit water sales outside the normal service area 	<ul style="list-style-type: none"> • Reduce process water usage to prescribed levels

In addition to prescribing mandatory conservation actions, the Mandatory Stage will prompt a number of other actions:

- Water purveyors in the EWSA will be assigned a percent reduction goal they are required to achieve.
- A communications plan will be developed and implemented to inform customers about the severity of the water situation and to publicize the restrictions.
- An enforcement plan will be developed that defines the enforcement mechanism(s), identifies staffing and management of the enforcement process, and defines procedures for dealing with violators.
- A policy will be developed for granting water restriction exemptions that identifies the exemption criteria, an application procedure, and the evaluation/determination process.
- Planning and preparation for the Emergency Stage will be initiated including an assessment of staffing impacts, training needs, and communication strategies.
- The City and/or its purveyors may implement a rate surcharge.

STAGE 4 – EMERGENCY

The likelihood of the Emergency Stage is extremely remote and no drought-related emergency has occurred in the history of the City. The Emergency Stage identifies

actions that will be taken only when a shortage of water for public health and safety is imminent. This stage is characterized by two things. First, increasingly stringent restrictions will be established and enforced. Second, significant rate surcharges may be implemented to reduce consumption.

The City will inform its wholesale and retail customers that all previous actions have not been successful and that emergency restrictions must be imposed to address the water shortage. This message will include the following elements:

- The water shortage problem is severe and has become a public emergency.
- All non-essential uses of water must be eliminated.
- Taste and odor water quality problems may occur due to system-wide reductions of water consumption and system flushing.
- Water pressure problems may occur throughout the water system.
- There will be increased enforcement of the water-use restrictions and violators will be fined.
- The City and/or purveyors may implement a rate surcharge.

Given the unique nature of the Emergency Stage, a list of actions will be developed by the Drought Advisory Committee based on the characteristics of the water shortage event.